UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,021	12/16/2005	Malcolm Paul Varnham	S001-P16	3869

7590 01/16/2008

John S Reid
Reidlaw
1926 S Valleyview Lane
Spokane, WA 99212-0157

EXAMINER
WONG, TINA MEI SENG

ART UNIT	PAPER NUMBER
2874	

MAIL DATE	DELIVERY MODE
01/16/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

N

Office Action Summary	Application No.	Applicant(s)	
	10/561,021	VARNHAM, MALCOLM PAUL	
	Examiner	Art Unit	
	Tina M. Wong	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *26-47 and 49-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *26-47 and 49-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 December 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/16/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted by the International Bureau under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

Claim 48 is objected to because of the following informalities: Claim 48 appears to be missing. The Examiner suggests Applicant to include claim 48 as cancelled. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 26-30, 32, 44, 45, 47 and 49-51 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,966,491 to DiGiovanni.

In regards to claims 26-29, DiGiovanni teaches an apparatus for providing optical radiation comprising an optical fiber (Figure 1) comprising a core (10), a second cladding (13) and a non-circular first cladding (11) having a substantially constant diameter in its cross section, at least one axis of symmetry and a geometric center.

In regards to claim 30, DiGiovanni teaches the core to be located at the geometric center.

In regards to claim 32, DiGiovanni teaches the core centered at the center of the smallest imaginary circle that can contain the first cladding.

In regards to claim 44 and 45, DiGiovanni teaches the fiber to contain at least one circular region (13) of a low refractive index.

In regards to claims 47 and 49, DiGiovanni teaches the fiber to comprise a rare-earth dopant, such as erbium-ytterbium. (See Example 5)

In regards to claims 50 and 51, DiGiovanni teaches a pump source configured to pump radiation coupled to the first cladding in the form of a laser. (See Examples 4 & 5 and Figure 6)

Claims 26, 28, 29, 31, 33, 44, 45, 47, 50 and 51 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication 2003/0152349 to Lauzon et al.

In regards to claims 26, 28 and 29, Lauzon et al teaches an apparatus for providing optical radiation comprising an optical fiber (Figure 1) comprising a core (10), a second cladding (16) and a first cladding (14) having a substantially constant diameter in its cross section, at least one axis of symmetry and a geometric center.

In regards to claim 31, Lauzon et al teaches the core to be offset from the geometric center.

In regards to claim 32, Lauzon et al teaches the core is offset from the center of the largest imaginary circle that can be contained within the first cladding.

In regards to claim 44 and 45, Lauzon et al teaches the fiber to contain at least one circular region (16) of a low refractive index.

In regards to claim 47, Lauzon et al teaches the fiber to comprise a rare-earth dopant, such as erbium-ytterbium.

In regards to claims 50 and 51, Lauzon et al teaches a pump source configured to pump radiation coupled to the first cladding in the form of a laser or amplifier.

Claims 26-30, 32, 41-47 and 49-51 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,483,973 to Mazzarese et al.

In regards to claim 26, Mazzarese et al teaches an apparatus for providing optical radiation comprising an optical fiber (Figures 4b & 5b) comprising a core (20), a second cladding (60) and first cladding (40) having a substantially constant diameter in its cross section.

In regards to claims 27-29, Mazzarese et al teaches a non-circular first cladding (40) having at least one axis of symmetry and a geometric center. (Figure 4b)

In regards to claim 30, Mazzarese et al teaches the core to be located at the geometric center. (Figure 4b)

In regards to claim 32, Mazzarese et al teaches the core centered at the center of the smallest imaginary circle that can contain the first cladding. (Figure 4b)

In regards to claims 41-43, Mazzarese et al teaches the fiber to contain at least one circular or non circular (Column 6, Lines 5-20) longitudinally extending hole (47). (Figure 5b)

In regards to claim 44 and 45, Mazzarese et al teaches the fiber to contain at least one circular region (60) of a low refractive index.

In regards to claims 44 and 46, Mazzarese et al teaches the fiber to contain at least one non-circular region (40) of a low refractive index.

In regards to claims 47 and 49, Mazzarese et al teaches the fiber to comprise a rare-earth dopant, such as ytterbium.

In regards to claims 50 and 51, Mazzarese et al teaches a pump source configured to pump radiation coupled to the first cladding in the form of a laser or an amplifier.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 34-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,483,973 to Mazzarese et al as applied to claim 1 above.

In regards to claim 34, Mazzarese et al teaches all discussed above, but fails to specifically teach the first cladding to be defined by circular arcs. However, Mazzarese et al does teach (Figure 4b) a number of sides of the inner cladding polygon. By forming a larger number of polygon sides, as shown in Figure 4b or more, taking 2 or 3 sides of the polygon would substantially form a circular arc. Furthermore, circular arcs are substantially many polygon sides joined together. Therefore, one or ordinary skill could reasonably construe the multi-sided polygon to have substantially circular arcs. Additionally, Figure 4b shows that an equilateral start can be formed from the center of the center arcs.

In regards to claim 35, by geometrical measurements, Mazzarese et al teaches each arc to have a first radius equal to the length of a side of a star.

In regards to claim 36, by geometrical measurements, Mazzarese et al teaches each radius to be greater than a length of a side of a star, the arcs are joined by second arcs with a second radius different than the first radius.

In regards to claim 37, Mazzarese et al teaches the each line of the star to cross all the other lines.

In regards to claim 38, Mazzarese et al teaches the star to be an equiangular star.

In regards to claim 39, Mazzarese et al teaches the star to contain at least two different angles.

In regards to claim 40, Mazzarese et al teaches the star to contain an odd number of vertices.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The documents submitted by applicant in the Information Disclosure Statement have been considered and made of record. Note attached copy of form PTO-1449.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M. Wong whose telephone number is (571) 272-2352. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tina M Wong
Primary Examiner
Art Unit 2874